

REMARKS

Claims 1 to 24 are pending in the application.

Drawings

The examiner objected to the drawings because the restoring force (claim 24) is not shown.

Replacement drawings sheets with Figs. 1-4; 7-8; and 11-12 are submitted showing the restoring force schematically as arrow F.

Also, in Fig. 1 the lead line of reference numeral 5 has been corrected; in the drawings as filed, the lead line incorrectly points to the elliptical line indicating the detail shown in Fig. 4; reference numeral 5 however belongs to the intake opening of the housing 3.

Claim Rejections - 35 U.S.C. 112

Claims 1-24 stand rejected under 35 U.S.C. 112, 2nd paragraph, as being indefinite. The Examiner states that the claim language of claim 1 is unclear as to claiming the fluid medium conveyor. The Examiner suggested to include in line 4 of claim 1 "comprising an entrained bulk material". Applicant instead has used the phrase "for entraining a bulk material". This language is believed to provide the required clarity without making the bulk material part of the claimed apparatus.

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 112 are therefore respectfully requested.

Rejection under 35 U.S.C. 102

Claims 1-4, 7-9, 14-16, 18-21, 24 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Cleaver et al. (US 4,171,853)*.

Claim 1 has been amended in order to better define the function of the control member. The control member is positioned in the conveying airstream so that the control member is exposed to a mass flow of the conveying airstream. The mass flow has a dynamic pressure differential exerting a force on the control member and the control member, as a function of the dynamic pressure differential, is moved within the housing and controls a flow velocity of the conveying airstream within a permissible range.

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This is explained in detail in the specification in paragraph 0007.

In contrast to this configuration that enables automatic (self-adjusting) control of the flow velocity within the pipelines of the conveying device, the prior art device shows in Fig. 5 a vacuum-operated sewage device. The valve 13 is normally closed to separate vacuum side and gravity side of the system (col. 6., lines 11-15). The valve 13 is controlled by means of a preset hydrostatic pressure that is measured by the sensor 18 (col. 8, lines 34ff). The line 3 downstream of the valve 13 is at vacuum so that opening of the valve 13 moves the sewage quickly because of the pressure differential between the gravity line 3 upstream of the valve and the vacuum line 3 downstream of the valve 13. Fig. 5 is a modification of the basic system that includes a check valve 77. When the valve 13 is opened, the check valve 77 opens also because of the pressure differential between pipe 14 and the chamber 45 in the cylinder 27 so that water from chamber 45 can flow into the pipe 14 (col. 13, lines 3-18).

The valve 13 is normally closed and opened only when sensor 18 that measures hydrostatic pressures sends a signal. Neither valve 13 nor the sensor are exposed to a mass flow of a conveying airstream. The sensor 18 reacts to hydrostatic pressure (pressure of a fluid at rest due to the weight of the fluid above it). There is no dynamic pressure differential (dynamic pressure is the pressure of a moving fluid) exerting a force on the control member so that the control member, as a function of the dynamic pressure differential, is moved within the housing and controls a flow velocity of the conveying airstream within a permissible range. The activation of the valve 13 is realized by the sensor 18.

The check valve 77 is also not exposed to a conveying air stream and a mass flow having a dynamic pressure differential. The check valve 77 is only opened when the main valve 13 has been opened because of a sensor signal received from the sensor 18. The check valve 77 opens because of a pressure differential but this pressure differential is simply the difference between vacuum in the line 3 and atmospheric pressure in the system. This is not a dynamic pressure differential caused by a moving fluid.

The prior art reference does not disclose a control member that is positioned in a conveying air stream so that the control member is exposed to a mass flow of the

conveying airstream, wherein the mass flow has a dynamic pressure differential that exerts a force on the control member so that the control member, as a function of the dynamic pressure differential, is moved within the housing and controls a flow velocity of the conveying airstream within a permissible range.

In particular, the invention as claimed in claim 24 is not anticipated by the cited prior art reference. According to claim 24, the position of the control member in the housing is determined by an equilibrium between a restoring force acting on the control member and an opposed force oriented in a direction opposite to the restoring force, wherein the opposed force is the force exerted by the dynamic pressure differential on the control member.

The prior art teaches opening and closing of valves based on a sensor signal. There is no control member that is exposed to the flow of a fluid medium so that, based on the dynamic pressure caused by the flowing medium and the restoring force, the flow velocity is adjusted automatically in order to keep the flow velocity within a permissible range. The present invention provides a self-adjusting system with an automatic control loop. The control member never closes off or shuts down the flow of the air stream but only adjusts its flow velocity within a permissible range. See, for example, paragraph 0029 of the specification. Note also the language used in the claim 1: "flow limiter". A flow limiter is a device that limits flow to a certain limit value but does not shut off flow.

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 102 are therefore respectfully requested.

ALLOWABLE SUBJECT MATTER

Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 has been amended to include the features of claims 1, 2, 3, and 4 and should thus be allowable together with claim 6.

CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.


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Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or e-mail from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on January 20, 2005,


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Encl.: - time extension petition (1 sheet)
- replacement drawing sheets Figs. 1-4; 7-8; 11-12 (3 sheets)

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